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THE OPIUM SHORTAGE: POLITICS AND HEALTH

In December of last year an editorial appeared in the *Journal*[1] that delineated the problems arising from the ill conceived and ill fated venture of the Nixon administration into the control of the production of *Papaver somniferum,* the opium poppy. The most far-reaching consequence of this policy was to create an artificial shortage and increased prices of the natural alkaloids and their derivatives, used by physicians in the country for analgesic, antitussive, and antidiarrheal purposes. According to best estimates made at a workshop held in conjunction with the 1975 meeting of the National Academy of Sciences–National Research Council Committee on Problems of Drug Dependence,[2] the price of raw opium has risen from $500 to $700 per kilogram since the beginning of the year, and the price of the codeine used by manufacturers in antitussives and in the codeine-aspirin or codeine-APC combinations has almost doubled. The price of bulk morphine sulfate for research purposes has increased from $15 an ounce to approximately $22 to $46 an ounce in the past 15 months, depending on the commercial source.

In 1972, the Bureau of Narcotics and Dangerous Drugs (BNDD), now the Drug Enforcement Administration (DEA), approached the National Academy of Sciences and asked the Academy to undertake a study of the feasibility of removing opium and opium-based drugs from the world market and to make some judgments on the impact that such a policy would have on the practice of medicine. Dr. Louis Harris of the Medical College of Virginia and I carried out this study[3] and collaborated with the American Medical Association's Center for Research and Development in a survey of American physicians concerning their prescribing and use patterns for analgesics, antitussives and antidiarrheal agents.[4] The suspicion remains that the study and survey were commissioned by BNDD to help justify a policy that had already been formulated and was being implemented by the Turkey Opium Pact of 1971. Whether the study and the survey served this purpose is questionable, however, since we concluded that despite the availability of a number of synthetic analgesics and despite the appearance of the new class of agonist-antagonists as useful analgesics (pentazocine, for example), it would not be in the best interests of the practicing physician and the public to attempt to force the substitution of these synthetic analgesics and antitussives in place of the naturally derived opiates. The AMA survey revealed that although American physicians think they could probably get along without morphine, except for certain special circumstances, most believe that codeine could not be replaced at present. This opinion is held even more firmly by their Western European colleagues, whom we surveyed informally and who unanimously expressed their belief that codeine was absolutely indispensable in their practice of medicine. The British medical and health authorities were even more emphatic and said that they could not practice good medicine without morphine.

Long before the feasibility study and physician survey were completed, however, steps had already been taken that led to the predictable and near disastrous consequences mentioned previously. Codeine is in extremely short supply, and the amount of morphine used for purposes other than the synthesis of codeine has also dwindled to unacceptably low levels. Particularly endangered is basic and applied research on the addictions, including the required estimation in animals of the addiction liability of new drugs as compared to morphine.

The size of the present stockpile for this calendar year is still a matter of conjecture, as is the estimate of the projected needs for the year. Responsible officials of DEA, National Institute on Drug Abuse, FDA, and the State Department, when asked for such estimates by Senator Bayh during the hearings on the opium shortage held by the Subcommittee on Juvenile Delinquency of the Senate Committee on the Judiciary on March 5, 1975,[5] could not provide a satisfactory answer and could only indulge in passing the responsibility for furnishing such estimates from one agency to the other.

To find some solutions to the problems brought on by our national opium policy, the AMA held a Symposium on the Supply of Opium for Medical Use in March of this year.[6] At this symposium government, industry, and academic experts in the field of narcotics and narcotic controls discussed needs, prospects and alternatives, and reached the conclusion that something needs to be done and done quickly. The differences centered around what and when. At that symposium and at the workshop held in conjunction with the Committee on Problems of Drug Dependence meeting, emphasis was put on the feasibility of using *P. bracteatum* in place of the opium poppy, *P. somniferum,* as the source of codeine, and of using the poppy straw rather than the pod in the extraction process.* Some experimental acreage is already in cultivation, and opium processors in this country are ready to develop large-scale cultivation and processing of *P. bracteatum* to obtain the necessary codeine. However, even if we were to go into

* *Papaver bracteatum* is a species of poppy that contains a higher content of thebaine than *P. somniferum* and virtually no morphine. Harvesting the entire plant (straw) for processing rather than incising the pod to obtain the crude alkaloid seems to make diversion for illicit purposes more difficult because of the greater bulk and the lower alkaloid concentrations in the straw.

full-scale production immediately, a minimum of three years would be necessary for any codeine from domestic sources to be marketed. The actual lag time will be much longer, since no one has as yet given approval for such production. Some alkaloid chemists believe that total synthesis of codeine by the pharmaceutical industry is not an impossible goal, but many years of intensive effort will be needed before it can become a practical and economically feasible way of replenishing our codeine supplies.

Since thebaine, the principal alkaloid found in this species of poppy, can serve as a source of codeine but not morphine, the growing of *P. bracteatum* in this country will not give us our needed morphine supplies, but it is hoped that renewed Turkish and expanded Indian cultivation of *P. somniferum* will be sufficient to supply the world demand. At present, both DEA and the State Department are adamant in their opposition to any domestic cultivation of *P. somniferum* for reasons that include the difficulty of controlling diversion and the necessity of unilateral steps that might be viewed as abrogation of international treaties. The controlled production of marihuana in Mississippi by the National Institute on Drug Abuse has demonstrated the diversion of a tightly guarded crop is not a problem, and DEA might agree to completely secured domestic production of *P. somniferum,* but the opposition of the State Department will be more difficult to overcome.

The production of *P. bracteatum* may be a mixed blessing since the resultant stocks of thebaine could serve as a source of illicit semi-synthetic compounds much more potent than morphine. Thebaine itself is devoid of analgesic narcotic properties, but the entire oripavine series of extremely potent analgesics is synthesized from this alkaloid. However, since there has been no documented diversion of thebaine for these purposes, nor any attempt to synthesize the more potent congeners of the meperidine series (a series that does not depend on a naturally occurring alkaloid for synthesis) by the underworld, this may not be a real danger.

The Turkish opium ban as put into effect by our government, the resulting shortages of indispensable drugs, and the adverse effects on the practice of medicine are all results of the application of simplistic solutions to extremely complex problems. No serious effort was made to consult with expert scientific and medical opinion before the policy was implemented, despite the fact that its consequences were predictable and its effect on the problems of heroin addiction in our cities equally predictable. The Turkish opium ban merely resulted in the replacement of Turkish heroin with Mexican heroin within a matter of several months. Even if we could, by some stretch of the imagination, succeed in removing opium and heroin from the licit and illicit world markets, the only result would be the development of substitute addictions to methadone, meperidine and any other narcotic analgesic that the underworld could divert, steal, or synthesize in a relatively unsophisticated chemical laboratory. The forced replacement of morphine and codeine with synthetic analgesics and antitussives would only serve to remove important and familiar agents from legitimate use to the detriment of medical practice without in any way affecting the problems of addiction.

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MASSACHUSETTS MEDICAL SOCIETY

DEATHS

AMORE — John M. Amore, M.D., of Marshfield, died on July 3. He was in his 73d year.

Dr. Amore received his degree from Kansas City University of Physicians and Surgeons in 1933. He was a member of the American Medical Association.

He is survived by his widow, two daughters, a son, a brother and three grandchildren.

ARCHIBALD — Robert E. Archibald, M.D., of Melrose, died on June 21. He was in his 80th year.

Dr. Archibald received his degree from Dalhousie University Faculty of Medicine in 1925. He was a member of the American College of Preventive Medicine and the American Medical Association.

He is survived by his widow, a brother and a sister.

BENDA — Clemens E. Benda, M.D., of Arlington, died on March 18. He was in his 77th year.

Dr. Benda received his degree from Friedrich-Wilhelms-Universität Medizinische Fakultät, Berlin, in 1922. He formerly served as a director of psychiatry and research for the Commonwealth of Massachusetts. He was formerly president of the American Academy of Mental Retardation, the American Association of Neuro-Pathologists and was a member of the American Psychiatric Association and the American Medical Association.

He is survived by his widow, two sons and six grandchildren.

BENDT — Richard H. Bendt, M.D., of Boston, died on August 30. He was in his 42d year.

Dr. Bendt received his degree from Medical College of South Carolina in 1961. He was a member of the American Psychiatric Association and the American Medical Association.

He is survived by his widow, his mother, two brothers and a sister.